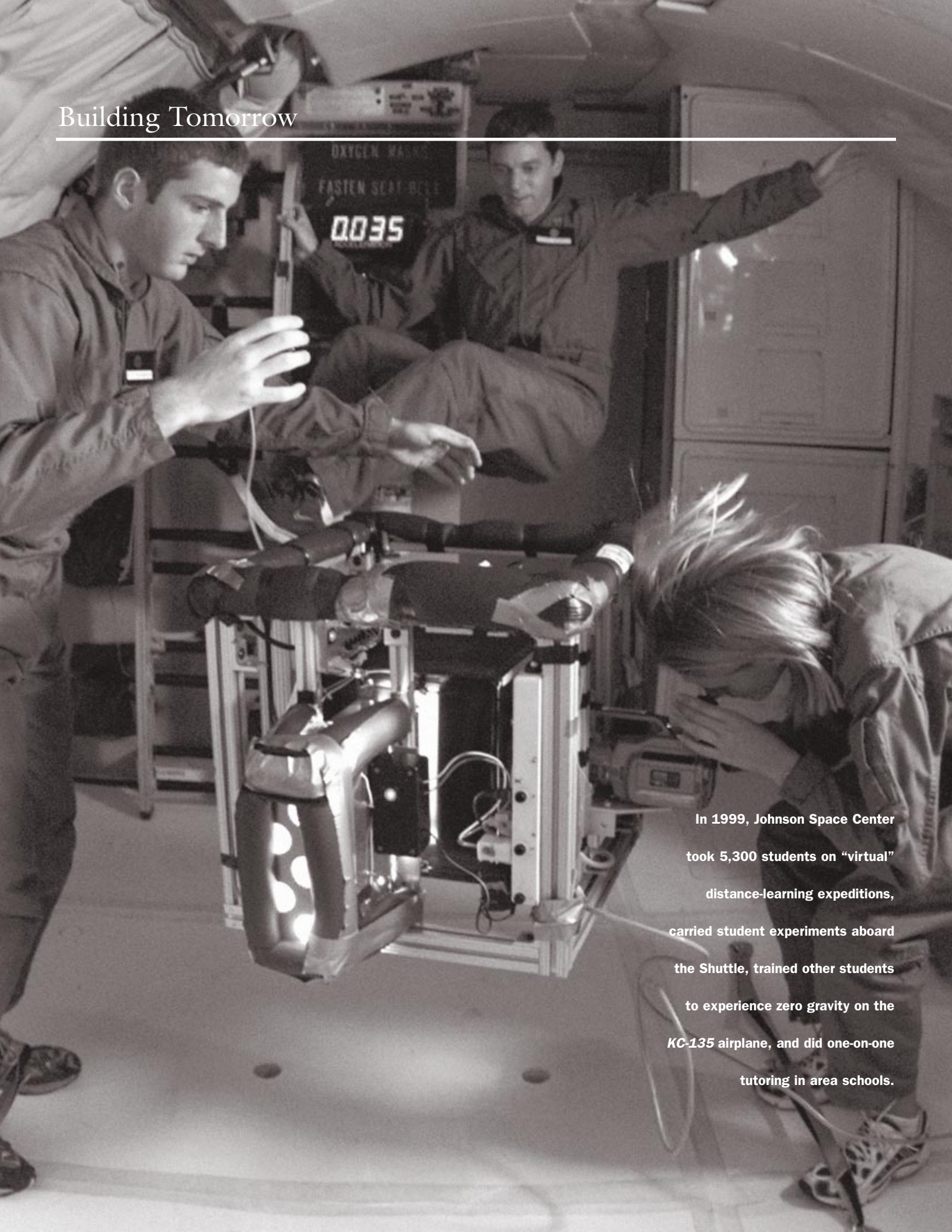
Building Tomorrow



In 1999, Johnson Space Center took 5,300 students on "virtual" distance-learning expeditions, carried student experiments aboard the Shuttle, trained other students to experience zero gravity on the *KC-135* airplane, and did one-on-one tutoring in area schools.

Johnson Space Center is a leader in educational excellence, serving as a resource, collaborator, and hands-on laboratory for students, educators, and administrators throughout the nation and around the world. Educational activities can involve astronauts on board the Space Shuttle, at schools and universities, at family entertainment venues, and on the Internet.

JSC is involved in the international JASON Program, a joint project of the Space Center, The JASON Foundation, and its corporate sponsors. For a 2-week period last spring, more than 5,300 students participated in "virtual field trips" in a JSC auditorium, joined remotely by thousands of students worldwide.

The Reduced Gravity Student Flight Opportunities Program is designed to give students practical as well as theoretical knowledge of science. Overseen by the Texas Space Grant Consortium, more than 70 teams of high school and college students performed experiments in the temporary absence of gravity aboard NASA's *KC-135* aircraft.

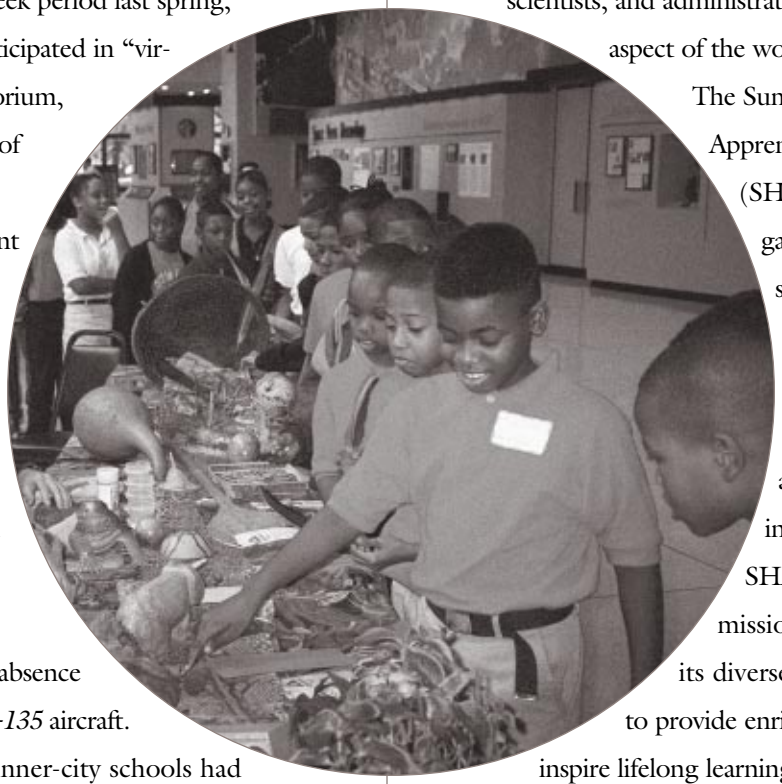
A group of students from inner-city schools had an experience of a lifetime as they participated in the first annual Monica Lamb/NASA Science and Basketball Camp, sponsored by Texas Southern University and NASA, with guest appearances by the Houston Comets. About 100 students took part in the camp, designed to give students a full week of intensive, but fun, hands-on science projects with an emphasis on teamwork and NASA-specific projects.

The year saw another first as JSC hosted the first annual Mars Settlement Design Competition. For one weekend in February, 80 Houston high school students participated in a competition to design a Martian habitat.

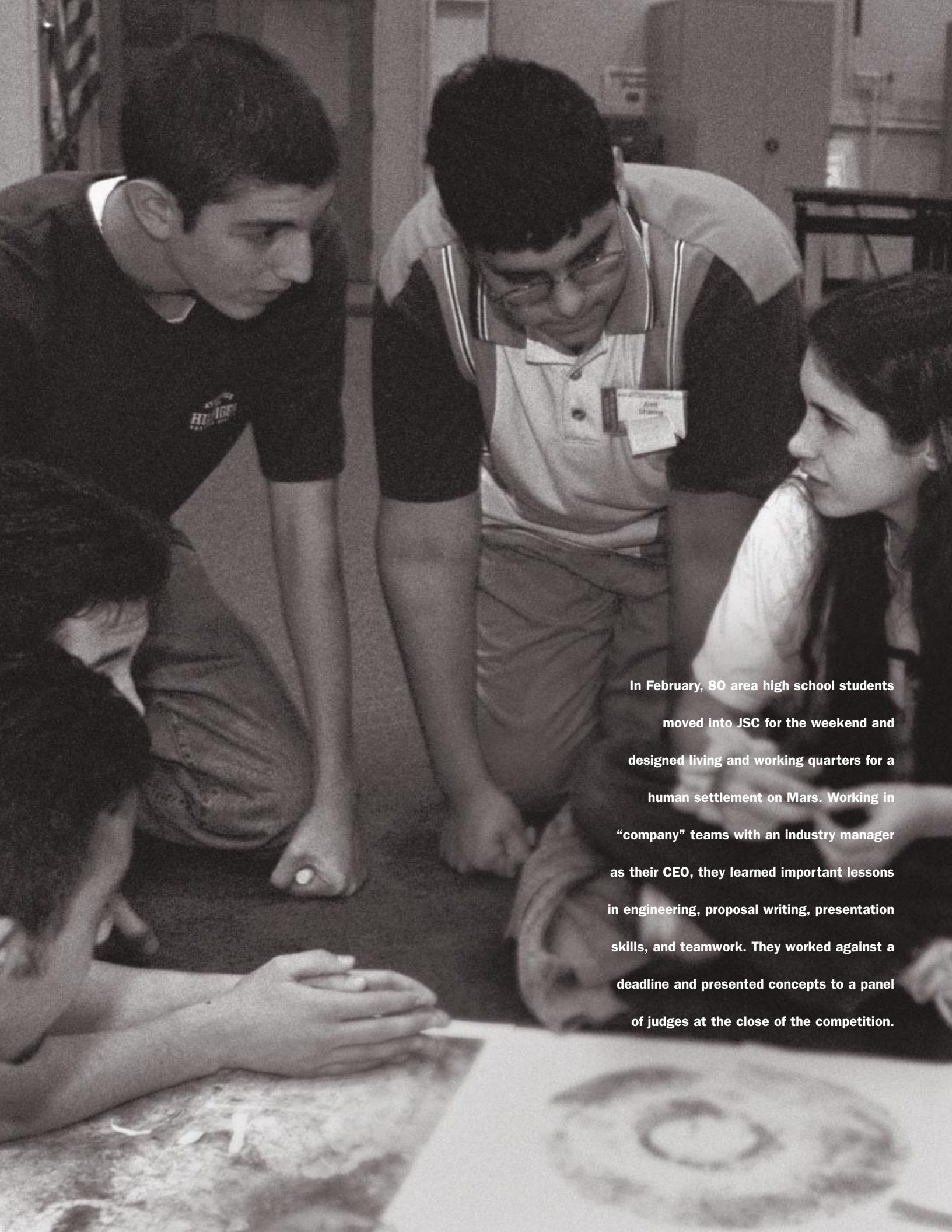
JSC's Cooperative Education Program involves about 150 college students from 45 schools around the country. These students alternate between semesters at school and full-time work at JSC. They work side by side with JSC engineers, scientists, and administrators, and get involved in every aspect of the work of the Space Center.

The Summer High School and Apprenticeship Research Program (SHARP), now in its 19th year, gave 14 area high school students a similar opportunity. It's designed as a summer internship for students who have demonstrated an aptitude for and an interest in science and engineering. SHARP uses NASA's inspiring mission, its unique facilities, and its diverse and specialized workforce to provide enrichment experiences and to inspire lifelong learning.

In 1999, JSC launched the Science Advisor, or SciAd, program in 8 intermediate schools and 18 elementary schools in the Clear Lake area. In this unique program, JSC volunteers serve as long-term technical advisors to the students and teachers in assigned schools. The program began at the White Sands Test Facility in 1990 and proved so successful that it was adopted in the Clear Lake area. Each SciAd volunteer



JASON Program
The JASON Program, a project of the JASON Foundation, NASA, and corporate sponsors, gives students a chance to go on their own personal journeys of discovery.

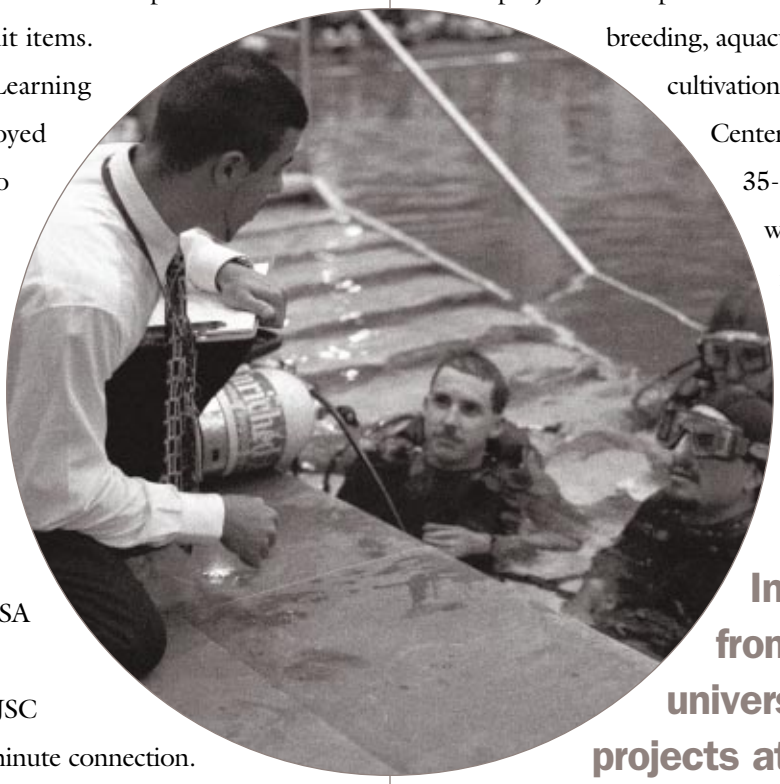


In February, 80 area high school students moved into JSC for the weekend and designed living and working quarters for a human settlement on Mars. Working in "company" teams with an industry manager as their CEO, they learned important lessons in engineering, proposal writing, presentation skills, and teamwork. They worked against a deadline and presented concepts to a panel of judges at the close of the competition.

can dedicate 8 hours a month of paid time to the program. The SciAds are available to the schools to help teachers both inside and outside of the classroom.

During National Engineers Week, more than 100 Houston-area schools responded to JSC's invitation to participate in the program. Some 175 civil servants and contractor employees shared their unique, space-related knowledge with students and teachers, using a variety of hands-on experiments and visual props, like spacesuit items.

Last year, JSC's Distance Learning and Education Project employed teleconferencing technology to bring the challenges of the space program to more than 5,000 students in classrooms across the nation and in seven foreign countries. Students took a cyber tour of the full-sized training models of the International Space Station, talked with NASA engineers and scientists, and experienced a brief history of JSC during a live, interactive, 45-minute connection.



The project created new, original video teleconference events on the topics of microgravity and geography. These educational events offered the students an opportunity to talk with astronauts, question experts, and view action in the Neutral Buoyancy Lab and the Mission Control Center, while delivering educational content that fully meets the requirements of national standards.

Development of the Longhorn Project, which builds on Texas' past to secure its future, gathered momentum with the addition of animals and improvements on the site. The project is a joint effort of the Clear Creek Independent School District, the Johnson Space Center, the Houston Livestock Show and Rodeo, and the Texas Longhorn Breeders Association of America. It is a first-of-its-kind facility for furthering agricultural education at the high school level. The project will help students learn about cattle care and breeding, aquaculture, and fruit and vegetable cultivation. The 60-acre site, near the Center's Rocket Park, includes a 35-acre pasture, a 10-acre wildlife habitat pond, an 8-acre feedlot with a barn and a storage shed, and 7 acres for aquaculture ponds, gardens, orchards, a processing lab, and a greenhouse.

In 1999, students from 45 colleges and universities worked on projects at JSC as part of the Cooperative Education Program. As Co-op Jennifer Glassley said, "I can't imagine a job where it's not common to run around in a spacesuit, fly on the *KC-135,* or swim in the Neutral Buoyancy Lab. This program was the best decision I ever made."

Cooperative Education Program
JSC's co-ops are college and university students who take a break from their regular classes to immerse themselves in the important work of NASA and become part of a project team.